

In the claims

The following list of claims replaces all previous lists of claims for the present application.

1-5. (Canceled)

6. (Currently Amended) A portable skin care device comprising an apparatus for maintaining and supplying stable power to a skin care device, comprising:

a DC-DC converting unit for escalating the voltages from a charged battery power source;

a skin-stimulating unit including at least one of a supersonic element and an ion-inducting element;

a switch unit having a main switch and various functional switches;

a liquid crystal displayer (LCD) for indicating a mode of operation of the portable skin care device;

a control processing unit (CPU) for controlling each component;

a voltage-measuring unit for measuring the voltage of said DC-DC converting unit;

a switching element for controlling a pulse width according to a duty ratio signal from the CPU; and

a heat-detecting unit and a safety control function for rapidly shutting off power when an unusual operation is detected due to overheating or an electric hazard as claimed in claim 2.

7-22. (Canceled)

23. (Currently Amended) A portable skin care device as claimed in claim 6 further comprises a main switch initiating unit having a function that, when said main switch is turned on, said CPU is activated by a switching signal inputted to an analogue input port from said CPU, first switch unit is activated by said CPU through an analogue output port, and field effect transistor (FET) is switched to supply battery power to said DC-DC converting unit.

24. (Previously Presented) A portable skin care device as claimed in claim 23, wherein said main switch has a function that a switch-in signal is inputted to said analogue input port for activating said CPU through a second switch unit.

25. (Previously Presented) A portable skin care device as claimed in claim 23, further comprises

a photo-coupler and a phototransistor with a function that an output to the first switch unit from the CPU is carried out by switching of the FET by activating the photo-coupler of the phototransistor.

26. (Previously Presented) A portable skin care device as claimed in claim 6, further comprises  
a strength-adjusting switch for controlling the strength of the output voltage of the DC-DC  
converting unit, and  
a mode switch for operating various modes of supersonic vibrations controlled by each  
vibrating frequency.

27. (Currently Amended) A portable skin care device ~~as claimed in claim 26, further comprises,~~  
comprising:

a DC-DC converting unit for escalating the voltages from a charged battery power source;  
a skin-stimulating unit, including at least one of a supersonic element or an ion-inducting  
element;

a switch unit having a main switch and various functional switches;  
a liquid crystal display (LCD) displayer for indicating a mode of operation of the portable  
skin care device;

a central processing unit (CPU) for controlling each component;  
a voltage-measuring unit for measuring the voltage of said DC-DC converting unit; and  
a switching element ~~(D3)~~ for controlling a pulse width according to a duty ratio signal from  
the CPU;

a strength-adjusting switch for controlling the strength of a output voltage of the DC-DC  
converting unit;

a mode switch for operating various modes of supersonic vibrations controlled by each  
vibrating frequency; and

a heat-detecting unit and a safety control function for rapidly shutting off power when an  
unusual operation is detected due to overheating or an electric hazard.

28. (Currently Amended) A portable skin care device as claimed in claim ~~6~~ 27, wherein said  
heat-detecting unit ~~70~~ further comprises a first heat sensor for sensing the surface temperature of the  
a vibrating plate and a second heat sensor for sensing the temperature of a vibrating element and a  
switching element.

29. (Currently Amended) A portable skin care device as claimed in claim 6, further comprises

a LED displayer equipped with a minimum number of connecting pins for indicating a  
~~mode~~~~various operating modes~~ in said portable skin care device comprising;

a first and a second LED connected in opposite directions, but disposed between a first  
input-output terminal and a second input-output terminal in parallel,

a third and a fourth LED connected in opposite directions, but disposed between the second  
input-output terminal and a third input-output terminal in parallel,

a fifth and a sixth LED connected in opposite directions, but disposed between the third  
input-output terminal and a fourth input-output terminal in parallel,

a seventh LED connected between the first input-output terminal and the fourth input-output  
terminal,

wherein each LED is independently activated to turn on and off according to each signal of  
input-output terminal from a controlling unit of CPU.

30. (Previously Presented) A portable skin care device as claimed in claim 29, wherein said  
first to sixth LEDs are used for adjusting the strength of modes, said seventh LED is for displaying  
the status of the skin care device operation.

31. (New) A portable skin care device as claimed in claim 6, further comprising a pulse width  
control signal function, which prolongs a switching-on stage by gradually increasing the voltage up  
to an operating voltage during a step-up stage, and inversely shortens a switching-off stage by  
gradually decreasing the operating voltage during a step-down stage.

32. (New) A portable skin care device as claimed in claim 6, further comprises a skin contact  
sensing unit for detecting contact of a vibrating part with a user's skin and a function of automatic  
step-up to an operating voltage when said skin detecting unit senses contact with the user's skin.

33. (New) A portable skin care device as claimed in claim 6, further comprises a safety control  
signal function, which rapidly shuts off power when it detects an unusual operation, overheating or  
an electric hazard.